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The Aftermath of Hurricane Katrina: A Trauma Researcher's Perspective

Jennifer J. Vasterling

In this article, the author describes from her personal perspective the progression and range of emotional reactions of the New Orleans community to Hurricane Katrina and its aftermath. The article further discusses the author's observations of the facilitators and barriers to emotional recovery that have unfolded as New Orleans continues to recover as a city. Lessons learned center on (a) the longitudinal phenomenology of emotional

and psychobiological stress responses in a context in which the aftermath of the initial event is characterized by a set of pronounced and enduring stressors and (b) the value of institutional and social support networks in confronting and overcoming these challenges.

Keywords: Katrina; stress; social support; longitudinal course; neuropsychology; health

We were all affected—every one of us who was living in New Orleans in August 2005. And, we each have a story. The stories differ. Some have to do with witnessing the storm, some with the days of chaos that followed, and some with the evacuation. Almost all involve what happened after that. The longer term challenges, losses, insights, and triumphs are as essential as the primary event in understanding the full scope of the storm and its emotional impact.

In this article, I try to convey through my personal perspective the ways in which Hurricane Katrina affected the New Orleans community and how the impact of the storm has evolved over time. Consistent with my recent research focus, I frame my tale within a longitudinal framework, followed by a discussion of the contextual factors that alternately challenged or facilitated recovery. By focusing on New Orleans, my intent is not to minimize the extraordinary hardships that others in Southeast Louisiana and along the Mississippi Gulf Coast

experienced but rather to convey the story through my own experience, as a native of New Orleans and resident of the city at the time of the storm. I no longer live in New Orleans, but I think of this wonderful and unique city and its people just about every day.

How One Story Unfolded

The First Days

My family has lived in New Orleans since the mid-19th century. I have never evacuated for a storm, nor have any of my ancestors. With my husband, 10-year-old daughter, and pet guinea pig, I begrudgingly left town the day before Katrina arrived. We drove to a hotel in Montgomery, Alabama, the closest available option out of the direct path of the storm. Like many others, we brought our most comfortable clothes, enough to last 3 days—a seemingly reasonable estimate of when we might return. Things did not go as planned.

What were those early days characterized by? It was tense but tolerable until the day after the storm made landfall and the first reports of flooding appeared on the giant TV in the hotel atrium that we and others watched together in stunned silence. Viewing the new reports on TV led to a sense of artificial distance. How unfortunate for those people affected by this monstrous event. But, wait, we are those people. This cannot be happening.

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That was about the time we who vacated New Orleans lost contact with those who stayed. In my case, "those staying" included my parents, who refused to leave. They were concerned about the potential hardships of the evacuation on my father, a diabetic who suffered with chronic pain. When we look at who evacuated and who did not, in the end, the physically vulnerable represented one of the largest contingencies to stay.

During that time, we evacuees also lost contact with each other. We had scattered rapidly in many directions. Most of us had brought only minimal contact information for our friends and neighbors. As we left, we believed that we would reconnect when we returned in a few days. If we needed to be in touch before then, we could always call each other on our cell phones. What a surprise on both counts. In the days before uniform text messaging capacity, we quickly found that calling other New Orleans area code cell phones was fruitless. Likewise, e-mail was a communication dead-end for many of us. Hospital and university servers were down. There was nothing more frustrating than being cut off from those you care about—others going through the same horrendous experience as you and others who might be experiencing worse.

Our hotel was filled with evacuees, mostly from the Mississippi Gulf Coast. To access the Internet, I spent a significant amount of time in the hotel business center during those days. It is where people went to receive personal news. It was heartbreaking. I watched people learn of their homes, their neighborhoods, and sometimes of their entire communities being destroyed. Lives were changed profoundly in the course of a 24-hour period. I watched as people of different backgrounds and socioeconomic strata realized that they had no where to go and nothing but their three pairs of shorts and t-shirts. They wept; they worried; we all comforted each other. It was a brand new microcommunity. Of course, we were the lucky ones to be in hotels rather than shelters.

As it was for so many others, the evacuation for my family was a work in progress and took a circuitous route. We could not live in the Embassy Suites forever. We decided to spend a week with friends in Texas to buy time to think. Thank goodness for Harry Potter. Reading an epic tale aloud to my family distracted us all from our thoughts during the trek from Alabama to Texas. During the week with our friends, we continued to learn of the depths of the chaos in New Orleans—the fires, the looting, the

stagnating water. Was the city, and our neighborhood with it, going to implode? Were my parents safe? And, where did my grandparents' assisted living facility wind up evacuating? Were they OK? After many phone calls, we found my grandparents, but the search for my parents continued. Were they in a shelter? Were they at home? Did my father have access to medicine? There was little sleep to be had during this period, and I lost 2 dress sizes within 10 days. I was eating; this was purely about physiological activation.

In the meantime, we were trying to make plans—with information that changed radically every day. Over the course of 5 days, we diligently made five sets of distinct plans to live in Montgomery, New York, Boston, Oakland, the Woodlands (where we were), and, finally, where we landed—Houston. How do you make such a decision with the parameters to guide you changing constantly, with your brain working at what feels like half-capacity, and with what little concentration you have left devoted to managing FEMA and insurance claims, making sure your child feels secure, and worrying about the safety of family members left behind? I can now see how easy it is for self-care to become a fragile entity. Our hosts nurtured us, taking care of our needs before we realized that we even had them. Simultaneously, a friend in Boston organized a long-distance search for my parents. I will always be grateful for both of these acts of kindness.

We eventually made contact with my parents. They were safe, although living in urban camping conditions, replete with Army-issued "meals ready to eat." (My mother insists that they were delicious.) Friends and colleagues from New Orleans also started finding each other. It was nothing short of wondrous each time another reconnection was made. You miss the people you see everyday—in the offices next door and down the hall, on the porch next to your house, on the street where you live. As we reconnected, we shared with each other factual information (e.g., the status of various neighborhoods, the location of recent looting, methods of navigating the morass of FEMA, how well mutual friends, neighbors, and colleagues were faring) and, as important, our emotional responses. No one was alone in this. All were together in their alternating relief to be safe and concern about what the future might hold. Likewise, friends and colleagues from other areas of the country called us, offering their support and help. When I regained access to e-mail, I found support from professional friends across the

country, and even a few from overseas. That simple contact was more important than they will probably ever know.

The Prolonged Evacuation

The good news came. Our neighborhood did not flood. With property 11 feet above sea level, we lived on a virtual mountain by New Orleans standards. But, the city was closed. It was still “marinating” in flood waters. Basic utilities were still out of operation. It would be a month before the public was let back in.

Our work places were likewise closed. Both the Tulane School of Medicine and the Veterans Affairs (VA) Medical Center, my primary workplace, were flooded. This was a time when I saw some institutions shine. The VA quickly found ways to keep all of its employees working and housed. My husband and I were assigned to the Houston VA, where we were treated with kindness beyond imagination. It was extraordinary to watch a facility suddenly accommodate with such grace so many displaced employees and military veteran patients. Tulane quickly made arrangements with Baylor to take care of its medical students. The American Psychological Association rallied to place all of our psychology trainees. The regional VA South Central Mental Illness Research, Education, and Clinical Centers (MIRECC), for which I served as an Associate Director at the time, did much to facilitate our work life.

My research staff was scattered across the country. We held virtual lab meetings because it was normal to have lab meetings, and we craved normality. The primary study that I was working on involved longitudinal data collection at Army installations and was timed around deployments to Iraq. My Boston-based co-principal investigator and long-time friend, Susan Proctor, shouldered many of the administrative responsibilities during that time. The study would have come to a dead halt without her. All of our study equipment sat in a damp, sweltering hospital in New Orleans that was reported to be getting moldier by the day. The city and hospital were still closed, and several of the military units that we had been following were ready to be assessed on their return from Iraq. I was allowed into the city prior to its reopening to retrieve the equipment. Once in the hospital, now manned by military personnel with automatic weapons, my husband and I were happy for the masks that we were required to wear. That is when I first viewed the beached rescue

boat in the downtown hospital district of New Orleans, which was later, in the year that it sat there, dubbed “Mr. Ass” by a graffiti artist with a sense of humor. It was odd to see a boat parked on the sidewalk—odd until you remember what that boat meant to stranded patients too sick to evacuate before the storm and to the valiant medical personnel who remained to care for them.

That first trip home in late September was odd for other reasons, too. We passed through the areas recently ravaged by Hurricane Rita. (In the 2005 hurricane season, anyone who relocated anywhere near home would confront at least one more storm threat after Katrina.) I was nervous about what I might find in New Orleans. We visited my parents, who were living in a somewhat moldy yet operable house. My father did not look well but was receiving good medical care. The next night, electricity was restored to our house, and we slept there. It felt like heaven. The neighborhood was still deserted except for the military and a rare family or two who had not evacuated. As we surveyed our quaint street lined with historic “shot-gun” and “camelback” style Victorian homes, helicopters flew overhead. Two Humvees each carrying four armed soldiers stopped by just to politely make sure we were who we were supposed to be. I was grateful.

My family and I enjoyed our time in Houston. Houston was a safe haven for us, filled with warm and welcoming people. We were awed by the inherent goodness of people. Across the country, people donated their time and money to evacuees entering their communities. In Houston, generosity of spirit abounded, from the car dealership that insisted on giving us a free battery to the reception my daughter received at the school that graciously accommodated her to the simple friendliness and kindness shown to us each and every day. We were touched by these magnanimous people. Our MIRECC colleague and friend, Mark Kunik, took us under his wing both professionally and socially. What we would have done without him?

During this period, physiological arousal nonetheless reigned. I continued to have trouble sleeping. My concentration was short. I worked long hours, not because I had to, but because time became meaningless, and I lost track of it on a regular basis. I forgot to pick my daughter up from school, not once but twice—something that has never happened before or since. My primary area of research interest centers on the neuropsychology of prolonged stress responses. There is nothing like living out your research first

hand. Exercise was my friend; I ran every day. My husband's support seemed to be boundless. He was truly incredible. Being with him and my daughter deeply comforted me. Weekend visits with my grandparents in their new assisted living facility near Houston gave me focus. I treasured phone calls with my friends and colleagues from New Orleans.

There were also frustrations during this period. We really wanted to return. I knew that my father's health was less than good. We had an intact house in an intact neighborhood, but no where to work. This was in contrast to the many New Orleanians who were part of a workforce desperately needed to begin the recovery process, but who had no where to live. Everyone seemed to have some critical life element missing. For us, this is when collaboration between Tulane and the VA saved the day. The Tulane Psychology Department made arrangements to provide us with office space; the Tulane Department of Psychiatry and Neurology provided research space; the VA granted off-site waivers to allow it to happen.

The Return

We returned on Christmas Eve, just about 4 months after the initial evacuation, moving my grandparents back in the process. It was joyous to see our neighbors. Our block was always close knit but had been brought even closer together by the tragedy of lives lost during a fire 2 years earlier. New Orleans is about community; neighbors care very much about each other.

As people began to return, hope, a sense of purpose, and community spirit dominated. Even in the unflooded area in which I lived, it felt a bit frontier-like. For a few months, mail was sporadic if it came at all; trash pick up was limited; traffic lights were dysfunctional; lines at the grocery and drug stores were long. Storm debris was everywhere. (Between my husband and me, we had six flat tires in 5 months.) These things at once frustrated and united those of us who had returned. Neighborhood associations organized themselves to achieve goals that could not be realized by the city government. Many of us engaged in community service. I relished Saturdays with the "Katrina Krewe," a grass roots service organization started by one of the mothers at my daughter's school. We picked up debris in ravaged neighborhoods that had no garbage service. I had never realized that collecting trash could be so fulfilling.

Some of us saw the 80% of the city that flooded for the first time when we returned. It was

monochromatic. No plants survived the salt water; houses, cars, trees—really everything—were covered in an earthen gray. You could drive for miles and see nothing but devastation. It was (and still is) an unbelievably sad sight.

Our property was relatively unscathed, but loss is not just about property. Three weeks after we returned, my father had a heart attack and died as he looked at samples to replace carpeting that had been ruined by the flood. He was 67. Both of my grandparents would die within the next 6 months as well. Friends, colleagues, and neighbors would develop life-threatening illnesses. The storm and the stresses that followed were hard on the health.

Loss was also about the microcommunities that no longer were; it was about the people who still had not returned; it was about the places of your childhood that no longer are. A sense of loss was common to many of us during that period. I could no longer distinguish what the source of my grief was.

After the initial optimism, reality set in for many. There were failures of government at multiple levels. Many people had trouble with their insurance claims. Renters had trouble finding reasonably priced apartments. Some businesses struggled. Many people were still displaced. Recovery was coming very slowly. Health care, especially mental health care, was stretched. "For sale" signs went up. We all saw painful reminders of the storm's devastation on a regular basis. We smelled them, too.

People were stressed, and the stress took its toll on individuals and on family units. There were suicides. Marriages dissolved. This is the part of the story that is sometimes lost. Although the city had made amazing strides to recover, significant challenges remained. The people of New Orleans are astoundingly resilient, but it has not been easy. Natural disasters are not discrete events from a psychological perspective. They unfold for many years.

Most people found a way to cope, some methods perhaps a bit more effective than others. A neighbor who worked at a nearby supermarket told me that he could not keep the liquor cabinets stocked. People discussed their antidepressants at social gatherings. People supported each other. Friends grew closer. As always, the city displayed its characteristic sense of humor. Festivals started again. I continued to run, and then run some more, right up until I completed my first half-marathon and blew out my knee the next week. People found their own silver linings. Mine was a newfound sense of perspective. I was much less

concerned with the little things. A good friend from the Tulane School of Public Health put it best. We had all “gone to the edge and looked over.” Once you do that, there is not a lot left to worry about.

For me, work was wonderful during the 14 months I was in New Orleans after our return. I collaborated more closely with several groups of Tulane colleagues than prestorm circumstances had allowed. Some were from the Child Section of the Department of Psychiatry and Neurology. I also had absorbing talks with Department Chair, Dan Winstead, about his vision of how to build the department in the future. Laura Levy, Associate Vice-President for Research, organized a stress-focused research group. I cherished my professional co-location in Stern Hall with Acting Chair, Gary Dohanich, and other “uptown campus” colleagues from the Department of Psychology and multicampus Neurosciences Program. What a terrific group of scholars. They kept me constantly stimulated and engaged. In the same way that friends and neighbors became closer after the storm, so too did colleagues. The way in which the storm drew out new professional collaborations was yet another silver lining.

The story will continue to unfold for the city of New Orleans, for the Tulane community, and for each of us who were there in 2005, whether we still live there or, as in my case, not. Some stories have happier endings than others; but, as a whole, like the city itself, its citizens continue to recover.

Lessons Learned

Scope and Trajectory of Stress-Related Responses

I have often heard people wonder (and argue) about the prevalence of posttraumatic stress disorder (PTSD) after Katrina, and New Orleanians jokingly refer to themselves as all being afflicted with PTSD. PTSD is certainly a factor for some. People were stranded on roofs, they saw loved ones drown, they endured unfathomable hardships and dangers in the Superdome and Convention Centers, they swam for their lives, they were held up at gunpoint, and they saw dead bodies as they performed rescue missions. Despite the unacceptably high number of people that fall into the category of being exposed to such events, they nonetheless represent a relatively small subset of the greater New Orleans citizenry. The storm led to a much more broadly defined stress

response on a population basis. For the large numbers of us not exposed directly to a PTSD Criterion A1 event, there would still be a very long and stressful road ahead. To varying degrees, people would experience anxiety, arousal, depression, frustration, and anger. We, however, would also experience relief, joy, gratitude, and hope. If you were lucky, you also grew emotionally from the experience.

What did I learn related to my own area of neuropsychological research? Well, that the term *Katrina Brain* became part of the written and spoken lexicon of the city following the storm told it all. This is not news. The scientific literature suggests that stress affects neurobiological and physiological functioning in many ways, including impairing neuropsychological functions such as attention and memory. Problems with memory and concentration, however, reflect only a small part of this biological stress response. The raised blood pressure, the panic attacks, the sleeplessness, and the weight changes (in both directions) that I saw so many people experience for the first time following Katrina are all part of this response. Even more shockingly, however, was how quickly this natural disaster seemed to affect immune functioning and health. I had long followed the literature on stress and health, and understood that, with time, stress overwhelms the body. I also understood that subclinical indications of adverse health effects would eventually evolve into serious disease states and shortened lifespans, I did not, however, expect to see it happen so quickly and so profoundly. This is what happens when stress is extreme, prolonged, and experienced population-wide. The stress associated with a natural disaster is merciless and nondiscriminating. It does not spare those who may be at heightened risk for more immediate and serious health consequences via their age, current health status, or genetic predisposition.

As happens following any extremely stressful event, the citizens of New Orleans have also shown different trajectories over time in their emotional responses. Few of us had absolute recovery early on without any subsequent difficulties. I believe that this too had much to do with how the ramifications of a large-scale natural disaster emerge over time. The event is only the beginning. Its negative consequences continue to surface for a much longer period of time. One lesson here is to not focus solely on one stress-related disorder (PTSD) in relation to a seemingly discrete event but to anticipate the full spectrum of responses to the series of significant

stressors that unfold over time for those directly affected by a natural disaster. A second lesson is to figure out how to equip people to cope as the cascade of stressors continues.

The Value of Social and Institutional Networks

Fran Norris of the VA National Center for PTSD and others who have dedicated themselves to understanding the psychological effects of natural disasters have long emphasized the value of social support. I could not agree with them more. Social networks, or their temporary absences, figured prominently throughout the post-Katrina tales of many of us. For example, on a personal level, one of the most important things I would do differently in a major evacuation would be to prepare better communication plans and contingencies among my friends and family. Institutions certainly seem to have had the same idea. As a member of the faculty of the Tulane Department of Psychiatry and Neurology, even now that I live in Boston, I continue to send in multiple forms of contact information each year to my Tulane department, as do all faculty members. I think no one in New Orleans wants ever again to be suddenly and unexpectedly thrust into isolation away from their immediate communities.

In a city where community is larger than life, the temporary and sometimes permanent dispersion of well-knit, long-standing neighborhoods following the storm hit some communities particularly hard. The very asset—community-based social support networks—that could have helped people through the adversity of the storm were ironically also casualties of the disaster. How and where to evacuate and shelter people with no where else to go may be critical in how they later cope. Developing mechanisms to reconnect people with few resources to do so on their own will likewise be important. We have already seen that neighborhood organizations can be superior to large bureaucracies in igniting recovery efforts. It is clear that strong community bonds can be used as effective tools in many different respects.

Following the storm, institutions have likewise served an important role in the recovery process. In my personal story, both Tulane and the VA provided mechanisms for faculty and staff to connect and work together with a sense of purpose. The networks that can be formed through the workplace go well beyond their roles in facilitating work products. Institutions and the organizational units within them, if well led, are communities in a much broader sense, providing infrastructure and social support and, perhaps most importantly, hope.